

Serial No.: 10/522,055  
Office Action dated August 3, 2009  
Amendment dated December 10, 2009

IN THE CLAIMS:

Please amend claims 1, 9 and 20 as follows:

1. (Currently Amended) A method of non-invasive exploration for assessing the digestive motility and transit of a human or animal subject, comprising:

providing an ingestible transmitting element, said transmitting element being non-digestible and containing a transmission means for transmitting at a given fixed frequency;

measuring a stationary reference position when said transmitting element is in the mouth of the subject, before the subject swallows it;

said subject swallowing said transmitting element;

measuring, at a given time using at least three reception means for receiving said fixed frequency that are distributed around said subject's trunk, the phase shift of the frequency transmitted by said transmission means relative to the measurement of said reference position in order to obtain at least three phase-shift measurements;

determining, by triangulation on the basis of the at least three phase-shift measurements, a 3D position of said transmitting element;

defining, according to the 3D position of said transmitting element, a data for an assessment of the digestive motility and transit.

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2. (Previously Presented) The method according to claim 1,  
further comprising providing a memory means for storing the at least three phase-shift measurements corresponding to the phase shift.

3. (Previously Presented) The method according to claim 1,  
characterized in that the reception means are placed around an abdominal belt.

4. (Previously Presented) The method according to claim 1,  
characterized in that a series of position measurements are made which are spread over time.

5. (Cancelled)

6. (Previously Presented) The method according to claim 2,  
further comprising triggering a power supply of the transmitting element at given times and storing the corresponding phase-shift measurements at each given time in the memory means.

7. (Previously Presented) The method according to claim 1, characterized in that the amplitude of the transmission frequency of the transmission means is modulated as a function of the amplitude of a signal picked up by a sensor included in the transmitting element, said sensor being able to pick up a signal representing a physiological characteristic.

8. (Previously Presented) The method according to claim 1, characterized in that said subject ingests several transmitting elements over a period of time, each transmitting element having a characteristic frequency.

9. (Currently Amended) A non-invasive exploration system for assessing the digestive motility and transit of a human or animal subject, in particular for the implementation of the method according to claim 1, characterized by:

an ingestible transmitting element which cannot be digested by said subject containing a transmission means for transmitting at a given fixed frequency;

means for measuring a stationary reference position when said transmitting element is in the mouth of the subject, before the subject swallows it;

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receiving means for receiving said fixed frequency comprising at least three receivers intended to be placed around the trunk of said subject, each receiver being able to measure at a given time the phase shift of said transmission frequency relative to the measurement of said reference position in order to obtain at least three phase-shift measurements; and

means for processing and analyzing the at least three phase-shift measurements made by said at least three receivers which are able to determine, by triangulation, a 3D position of said transmitting element.

10. (Previously Presented) The system according to claim 9, characterized in that it also comprises a means for storing in a memory the at least three phase-shift measurements made by said at least three receivers at a given time.

11. (Cancelled)

12. (Previously Presented) The system according to claim 10, characterized in that the transmitting element comprises an integrated power supply means for supplying power to the transmitting element.

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13. (Previously Presented) The system according to claim 9, characterized in that the transmitting element comprises an induced power supply means for supplying power to the transmitting element.

14. (Previously Presented) The system according to claim 9, characterized in that said at least three receivers are distributed on a belt which is able to be fixed on the trunk of the subject.

15. (Previously Presented) The system according to claim 14, characterized in that the belt also comprises a means for the induction of a power supply of said transmitting element.

16. (Previously Presented) The system according to claim 14, characterized in that the analysis and processing means include a card comprising means for analog-to-digital conversion of signals picked up and memory means common to said at least three receivers and arranged on the belt for storing the measurements made by said at least three receivers.

17. (Previously Presented) The system according to claim 9, characterized by a means for connecting a memory means for storing the measurements made by said at least three receivers to the processing and analysis means and for transferring data relating to the phase shifts measured.

18. (Previously Presented) The system according to claim 9, characterized in that the transmitting element comprises a sensor which is able to pick up a signal representing a physiological characteristic, the amplitude of the frequency transmitted by the transmission means being able to be modulated as a function of the amplitude of the signal picked up by said sensor.

19. (Previously Presented) The system according to claim 9, characterized in that it comprises several transmitting elements intended to be ingested by said subject over a period of time.

20. (Currently Amended) A method of non-invasive exploration for assessing the digestive motility and transit of a human or animal subject, comprising:

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providing a plurality of ingestible transmitting elements, each of said transmitting elements being non-digestible and containing a transmission means for transmitting at a given fixed frequency;

measuring a stationary reference position when each said transmitting element is in the mouth of the subject, before the subject swallows it;

swallowing said ingestible transmitting elements over a period of time;

measuring, at a given time using at least three reception means for receiving said fixed frequency that are distributed around said subject's trunk, the phase shift of the frequency transmitted by each of said transmission means relative to said reference position to obtain at least three phase-shift measurements;

determining, by triangulation on the basis of the at least three phase-shift measurements, a 3D position of each of said transmitting elements; and

defining, according to the 3D position of each of said transmitting elements, data for an assessment of the digestive motility and transit.